Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	172	isoprostane or $isoprostane	US-PGPUB; USPAT	OR	ON	2005/09/19 09:43
L2	129	physicological	US-PGPUB; USPAT	OR	ON	2005/09/19 09:43
L3	0	1 and 2	US-PGPUB; USPAT	OR	ON	2005/09/19 09:43
L4	130	1 and stress	US-PGPUB; USPAT	OR	ON	2005/09/19 09:44
L5	1	psycho-neuro-endocrine	US-PGPUB; USPAT	OR	ON	2005/09/19 09:46
L6	29	pyschological	US-PGPUB; USPAT	OR	ON	2005/09/19 09:46
L7	1	1 and 6	US-PGPUB; USPAT	OR	ON	2005/09/19 09:46

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	172	isoprostane or $isoprostane	US-PGPUB; USPAT	OR	ON	2005/09/19 09:43
L2	129	physicological	US-PGPUB; USPAT	OR	ON	2005/09/19 09:43
L3	0	1 and 2	US-PGPUB; USPAT	OR	ON	2005/09/19 09:43
L4	130	1 and stress	US-PGPUB; USPAT	OR	ON	2005/09/19 09:44
L5	1	psycho-neuro-endocrine	US-PGPUB; USPAT	OR	ON	2005/09/19 09:46
L6	29	pyschological	US-PGPUB; USPAT	OR	ON	2005/09/19 09:46
L7	1	1 and 6	US-PGPUB; USPAT	OR	ON	2005/09/19 09:47
L8	75	1 same stress	US-PGPUB; USPAT	OR	ON	2005/09/19 09:47

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	614	psychological adj stress	US-PGPUB; USPAT	OR	ON	2005/09/19 12:48
L2	113	$isoprostane	US-PGPUB; USPAT	OR	ON	2005/09/19 12:48
L3	2	1 and 2	US-PGPUB; USPAT	OR	ON	2005/09/19 12:54
L4	3	2 and psychological	US-PGPUB; USPAT	OR	ON	2005/09/19 12:55

(FILE 'HOME' ENTERED AT 10:06:42 ON 19 SEP 2005)

FILE 'EMBASE, BIOSIS, CAPLUS, SCISEARCH, MEDLINE' ENTERED AT 10:07:02 ON 19 SEP 2005

```
L1         10197 S (PSYCHOLOGICAL (W) STRESS) OR (PSYCHO-NEURO-ENDOCRINE (W) STR
L2          7310 S ISOPROSTANE? OR ?ISOPROSTANE
L3             1 S L1 AND L2
L4        206226 S OXIDATIVE (W) STRESS
L5            60 S L1 AND L4
L6            20 S L1 (S) L4
L7             9 DUPLICATE REM L6 (11 DUPLICATES REMOVED)
```

FILE 'STNGUIDE' ENTERED AT 10:14:57 ON 19 SEP 2005

=>

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	154	prostaglandin-like adj compound or (pg-like adj compound)	US-PGPUB; USPAT	OR	ON	2005/09/19 15:09
L2	172	isoprostane or $isoprostane	US-PGPUB; USPAT	OR	ON	2005/09/19 15:09
L3	15	1 and 2	US-PGPUB; USPAT	OR	ON	2005/09/19 15:13
L4	0	2 and (emotional adj stress)	US-PGPUB; USPAT	OR	ON	2005/09/19 15:14

(FILE 'HOME' ENTERED AT 15:39:08 ON 19 SEP 2005)

FILE 'EMBASE, BIOSIS, CAPLUS, SCISEARCH, MEDLINE' ENTERED AT 15:39:23 ON 19 SEP 2005

L1	438	S	PROSTAGLADIN-LIKE OR PG-LIKE
L2	465761	S	PSYCHOLOGICAL
L3	0	S	L1 AND L2
L4	0	S	L1 AND EMOTIONAL
L5	12965	S	EMOTIONAL (W) STRESS
L6	5100	S	?ISOPROSTANE
L7	0	S	L5 AND L6

(FILE 'HOME' ENTERED AT 08:26:07 ON 20 SEP 2005)

FILE 'EMBASE, BIOSIS, CAPLUS, SCISEARCH, MEDLINE' ENTERED AT 08:26:19 ON 20 SEP 2005

L1 136 S (PSYCHOLOGICAL OR EMOTIONAL) (S) OXIDATIVE
L2 127 S L1 (S) STRESS
L3 57 DUPLICATE REM L2 (70 DUPLICATES REMOVED)
L4 0 S L3 AND ISOPROSTANE

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	27	(psychological or emotional) same oxidative	US-PGPUB; USPAT	OR	ON	2005/09/20 07:58
L2	24	1 same stress	US-PGPUB; USPAT	OR	ON	2005/09/20 07:58

on STN DUPLICATE 18

TI **Oxidative** damage of nuclear DNA in liver of rats exposed to **psychological stress**.

AB Male Sprague-Dawley rats were exposed to conditioned **emotional** stimuli in a communication box, which is much more psychologically conditioned **stress** than the commonly used restraint and water immersion, to investigate the induction of **oxidative** DNA damage by **psychological stress**. Significantly higher levels of 8-hydroxy-2'-deoxyguanosine in rat liver nuclear DNA than in the controls [1.46 ± 0.19 (SD) 8-hydroxy-2'-deoxyguanosine/105 deoxyguanosine] were detected immediately after the second (1.90 ± 0.27, $P < 0.01$), third (3.10 ± 0.94, $P < 0.01$), and fourth exposure (2.95 ± 1.17, $P < 0.01$) to conditioned emotional stimuli. This is the first evidence that **oxidative** damage to nuclear DNA is induced by **psychological stress**.

SO Cancer Research, (1993) Vol. 53, No. 18, pp. 4153-4155.
ISSN: 0008-5472 CODEN: CNREA8

AU Adachi S.; Kawamura K.; Takemoto K.

L3 ANSWER 20 OF 57 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on STN DUPLICATE 9

TI Changes in clinically relevant metabolites with psychological stress parameters.

AB **Psychological stress** is associated with increased **oxidative stress**, a proinflammatory state, increased rate of infection, and cardiovascular disease. Cardiovascular disease also is associated with increased stress, homocysteine, and C-reactive protein (CRP) levels. In this study, the authors measured various markets of **psychological stress** and correlated with homocysteine, CRP, salivary IgA, and **oxidative stress**. The results of the study showed that psychological stress is associated with pro-oxidant and pro-inflammatory states as evidenced by either decreased NT levels and/or increased CRP concentrations. Conversely, positive or low stress parameters, indicating good life skill mechanisms were associated with increased NT and decreased CRP-indications of a low pro-oxidant state. Homocysteine was associated with increased anger (anger-suppression and anger-experience), psychological parameters associated with cardiovascular disease and also mildly elevated CRP and homocysteine levels. Psychological well-being and stress are correlated with biochemical parameters both positively and negatively in relation to immunity and cardiovascular disease processes. The cross-sectional design and correlational approach used in this study preclude any inferences of causality but suggest several potentially useful avenues for future research.

SO Behavioral Medicine, (Summer 2003) Vol. 29, No. 2, pp. 52-59. print. ISSN: 0896-4289.

AU Hapuarachchi, John R. [Reprint Author]; Chalmers, Ainsley H.; Winefield, Anthony H.; Blake-Mortimer, Jane S.

L3 ANSWER 22 OF 57 EMBASE COPYRIGHT 2005 ELSEVIER INC. ALL RIGHTS RESERVED.
on STN DUPLICATE 10

TI Psychological stress increases bilirubin metabolites in human urine.

AB Some authors have suggested that psychological stress induces the production of reactive oxygen species (ROS). Some studies have supported that bilirubin exerts anti-oxidative effects in vivo. However, it is not known whether ROS induced by psychological stress provoke bilirubin oxidation in vivo. We investigated if the concentration of bilirubin **oxidative** metabolite (BOM), a bilirubin **oxidative** metabolite, increased in urine from subjects exposed to **psychological stress**. Sixty healthy male volunteers working in a pharmaceutical company were divided into a Group I which did not attend a conference, a Group II which attended a conference but did not deliver a speech, and a Group III which attended a conference and delivered speeches in the presence of the company executives. Subjective stress was scored (self-rating score) after subjects in Group III delivered their speeches at the conference. Urine was collected on the next day. The BOM concentrations, as measured by enzyme-linked immunosorbent assay, were normalized to the urinary concentration of creatinine. The concentration of BOM in Group III was significantly higher compared to that in Groups I and II ($p < 0:01$ and $p < 0:05$, respectively). Furthermore, in Group III, the concentration of BOM correlated with the self-rating stress score ($r = 0:53$, $p < 0:01$). These findings suggest that **emotional** stimuli are associated with an increase in the **oxidative** metabolites of bilirubin in human urine, and that BOMs could be useful markers of **psychological stress**. .COPYRGT. 2002 Elsevier Science (USA). All rights reserved.

SO Biochemical and Biophysical Research Communications, (2002) Vol. 293, No. 1, pp. 517-520.
Refs: 35
ISSN: 0006-291X CODEN: BBRCA

AU Yamaguchi T.; Shioji I.; Sugimoto A.; Yamaoka M.

1: Pharmazie. 1996 Jan;51(1):51-3.

Lipid peroxidation during acute stress.

Kovacs P, Juranek I, Stankovicova T, Svec P.

Department of Pharmacology, Comenius University, Bratislava, Slovak Republic.

Lipid peroxidation (LPO) is one of the main events induced by oxidative stress. The aim of our study was to investigate the influence of 30 min cold-immobilization (model of acute stress used in this experiment) on LPO in the brain, heart, liver and stomach homogenates of the rats. LPO was determined by measuring of the contents of thiobarbituric acid reactive substances (TBARS), conjugated dienes (CD) and sulfhydryl groups (SH). Experimental stress induced enhancement of TBARS formation in the liver and increased level of the CD in the heart, stomach and liver, while in the brain both parameters were found to be decreased. The levels of TBARS were not changed in the heart and in the stomach, too. The concentrations of SH-groups were decreased in the heart, brain and stomach, while in the liver the parameter was found to be not changed. The results of this study showed the increase of LPO in the heart, stomach and liver under stress conditions. It could be supposed that LPO may be involved in mechanisms of stress injury in different tissues.

PMID: 8999436 [PubMed - indexed for MEDLINE]

1: AACN Clin Issues. 2002 Nov;13(4):540-9. Related Articles, Links

Oxidative stress, DNA damage, and breast cancer.

Kang DH.

School of Nursing, University of Alabama-Birmingham, Birmingham, AL 35294-1210, USA. kangd@uab.edu

Oxidative stress is a disturbance in the balance between the production of reactive oxygen species (ROS) and antioxidant defenses. It occurs when excessive production of ROS overwhelms the antioxidant defense system or when there is a significant decrease or lack of antioxidant defenses. Oxidative stress, in turn, is known to cause DNA damage and mutations of tumor suppressor genes that are critical initial events in carcinogenesis. Interestingly, early findings of the studies suggest that environmental factors, such as high psychological stress and poor nutritional profile (eg, low antioxidant and high fat intake), increase ROS production. Given that breast cancer is a complex disorder in which gene-environment interactions play a significant role in the development of cancer, oxidative stress may be an excellent model for exploring mechanisms mediating gene-environment interactions for nurse scientists and advanced practice nurses. Such investigations may help to suggest future strategies for nonpharmacological interventions for decreasing cancer risk.

Publication Types:
- Review

PMID: 12473916 [PubMed - indexed for MEDLINE]

L3 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2004:252755 CAPLUS
DN 140:281858
TI Diagnosis of human **psychological stress** through the use of **isoprostanes** as a biol. marker and immunoassay for **isoprostane** determination
IN Cobain, Mark Robert; Powell, Jonathan Richard; Talbot, Duncan Charles Stuart
PA Unilever Plc, UK; Unilever N.V.; Hindustan Lever Limited
SO PCT Int. Appl., 24 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004025303	A2	20040325	WO 2003-EP9826	20030903
	WO 2004025303	A3	20041014		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
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PRAI	GB 2002-21306	A	20020913		
	WO 2003-EP9826	W	20030903		